

System and Method for the Certification and Redemption of Personal Checks
Invention Disclosure



Procedural Information

Informal Title:

Certified Personal Checks

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Summary of the Invention

It is ... an object of the present invention to enable a system and method whereby account holders can certify their personal checks. In the preferred embodiment, a personal checking account holder calls a central agency (either a bank or a clearinghouse) on their DTMF enabled ("touch-tone"™) telephone. An Interactive Voice Response Unit (IVRU) coupled to an account management server prompts the account holder for their account number, the check number, the amount to be paid to the payee and the payee's name. Although not necessary for the practice of the invention, a Personal Identification Number (PIN) may be required the check's validity date and an expiration date for the check. The account management server receives all this information, queries an account database and verifies that sufficient funds are available. If sufficient funds are available, data records are adjusted so that the specified amount cannot be withdrawn except upon presentation of the registered check number (similar to a credit card "freeze" in the parent application). After the funds are verified and reserved in accordance with the registered check number, a "certification code" is generated by the server. The generated certification code is provided to the account holder via the IVRU and is stored corresponding to the registered information. The account holder/payor can then give the code to the check recipient/payee either separately or written on the "memo" portion of the check. The payee can then contact the central agency through a payee device, such as a DTMF enabled telephone, and enter the account number (a portion of the MICR number at the bottom of the check) along with the certification code to verify that the funds are in fact reserved in the payor's personal checking account for the payee. This gives the payee assurance that the funds will be reserved for them and released only upon presentation of the check with the registered check number. Of course, the

functionality of the present invention need not be limited to telephone-based communications; the account holder and payee devices may be personal computers, wireless communicators, or the like.

Payees will benefit from the present invention in several ways. First, they can receive an absolute assurance that checks they are given will not bounce. Second, the burden to ensure payment in the present invention is appropriately placed on the payee. Third, to receive such an assurance, the payee does not need any special hardware or pre-defined relationship with a third party such as a clearinghouse or bank.

Payors will benefit from the present invention in several ways as well. First, payors will not have to travel to a bank to obtain a certified check; they can do it remotely over the phone. Second, as the payee is assured payment, the payor will not have to risk embarrassment, penalty fees, or late fees as a result.

Banks practicing the present invention will benefit in several ways. First, they will not have to dedicate resources to processing personal checks that bounce. Second, in the embodiment where the check's date is required during the registration, the bank knows how long it will have the money for and can then leverage the money during the "freeze" period. Third, the invention enables two primary ways that banks can earn substantial transaction and processing fees for offering the service without dedicating expensive teller time; an initial charge and a period charge that is assessed as long as the check is "frozen."

Third parties such as clearing houses or check guarantee services can benefit from the present invention because it allows for a fundamentally better business model. With the invention, these businesses are no longer required to pay merchants for bounced checks because checks will never bounce in the inventive system. The revenue generated from service fees will no longer have to be used to offset the risk of bounced checks. After enough service fees are generated to pay for the system, all additional revenue is profit.

Detailed Description of the Invention

Definitions-

- | | |
|-----------------------------|---|
| <i>Account Holder-</i> | As used herein, the account holder is the payor, or the person or entity who owes money to a payee. |
| <i>Payee-</i> | The person or entity who is the named recipient of the check. The payee is owed money by the account holder. |
| <i>Check Validity Date-</i> | The date marking when a payee can cash a check. As with conventional checks, the payee cannot cash such a check before such a date. |

"Freeze" and "Frozen"- As discussed herein and in the parent application, a "freeze" takes place when a portion of an account's balance is reserved for a payee. Therefore, an amount of an account can be "frozen" and thereby reserved for the payee. In other words, a frozen check is simply an uncashed check whose amount is reserved for the named payee.

Confirmation Message- The "confirmation" language referred to in Figures 1 and 7 simply refers to the communication that takes place between the payee and the account management server. A confirmation message simply indicates that the check amount is in fact reserved for the payee and thereby serves as assurance to the payee that they can receive the funds associated with the check number.

"Account Holder Devices" and "Payee Devices"- These devices are used to communicate with the account management server. As such, they can be conventional DTMF enabled telephones, personal computers, or the any other conventional communication hardware that can be used to communicate to a remote computer server.

Total Account Balance- The amount of money that exists in an account holder's account.

Total Available for Withdraw- The total account balance less the amounts of any frozen checks. This way, the account holder only has access to use money that is not frozen for a payee. Typically, in a checking account, this amount may be less than a "total account balance" to account for checks that the account holder deposited but have not yet "cleared."

Operation-

In the operation of the primary embodiment, a bank is the practitioner of the invention. This is a practical embodiment for the invention as banks already have local access to account holder databases. Also, it may be that banks will be wary to let third parties have access to their account databases.

Figure 1 is a block diagram of the system overview that represents the flow of information in the present invention.

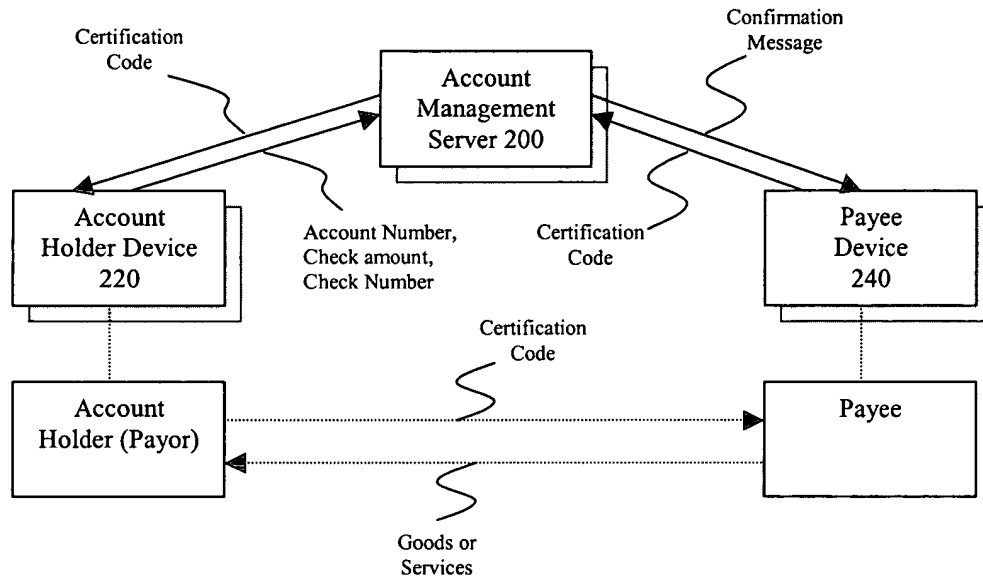


Figure 2 is a schematic block diagram representing the Account Management Server of Figure 1.

RAM/ROM/CPU/Clock

Input/Output Devices

IVRU (preferred embodiment)

Digital Communication Port (alternate embodiments)

Data Storage Device

Checking Account Database

Registered Check Database

Service Fee Database

Registration Process Program

Confirmation Process Program

Check Cashing Process Program

Periodic Check Registration Management Process Program

Figure 3 is a tabular representation of the Checking Account Database of Figure 2.

Account Number	Account Holder Name	Personal Identification Number	Total Account Balance	Total Available for Withdraw
1234837652-73476726	Bill Johnson	9182	\$3182	\$3082
1234957123-94775827	Sam Smith	2991	\$595	\$595
1028674656-97843792	Owen Money	7769	\$400	\$350

Figure 4 is a tabular representation of the Registered Check Database of Figure 2.

Account Number	Check Number	Check Amount	Payee Name	Check Validity Date	Check Expiration Date	Certification Code	Redemption Status
1234837652-73476726	987	\$100	Tony Recipient	5/15/98	6/15/98	3099	cashed
1028674656-97843792	387	\$50	Bob McDonald	5/20/98	none registered	7976	frozen

Figure 5 is a tabular representation of the Service Fee Database of Figure 2.

Service Description	Service Fee
Personal Check Certification if check amount < \$75	\$2.00
Personal Check Certification if check amount \geq \$75	3% (check amount)
Periodic Personal Check Certification Service Fee (charged during "freeze" period)	\$1.00/month

Figure 6 is a flowchart describing the operation of the Registration Process of Figure 2 (account management server perspective 200).

1. Establish communication with account holder device 220 via input/output device.
2. Prompt account holder for account number.
3. Receive account number from account holder.
4. Determine if account number exists in Checking Account Database.
5. If not, transmit "invalid account number" message to account holder and continue at step 2.
6. If so, prompt account holder for PIN.
7. Receive PIN from account holder.
8. Determine if PIN corresponds to account number in Checking Account Database.
9. If not, transmit "invalid PIN" message to account number and continue at step 6.
10. If so, prompt account holder for check amount, check number, payee name, check validity date and check expiration date.
11. Retrieve "total available for withdraw" corresponding to received account number from Checking Account Database.
12. Retrieve "service fee" from Service Fee Database.
13. Add retrieved service fee to received check amount.
14. Determine if product is less than or equal to retrieved "total available for withdraw."
15. If not, transmit "insufficient funds" message to account holder. Continue at step 22.

16. If so, decrement corresponding "total available for withdraw" cell by check amount.
17. Decrement "total available for withdraw" and "total account balance" fields by the retrieved service fee amount.
18. Generate certification code. This code may be generated randomly or in any known number generation method.
19. Store generated certification code, check amount, check number, payee name, check validity date, check expiration date and account number in a new record of Registered Check Database.
20. Set redemption status of new record in Registered Check Database to "frozen."
21. Transmit generated certification code to account holder.
22. End process.

Figure 7 is a flow chart describing the operation of the Confirmation Process of Figure 2.

1. Establish communication with payee device 240 via input/output device.
2. Prompt payee for account holder's account number.
3. Receive account number.
4. Determine if account number exists in Checking Account Database.
5. If not, transmit "invalid account number" message to account holder and continue at step 2.
6. If so, prompt payee for check number.
7. Determine if received check number and account number are stored in a record of Registered Check Database.
8. If not, transmit "invalid check number" message to payee and continue at step 6.
9. If so, prompt payee for payee name.
10. Receive payee name.
11. Determine if received payee name corresponds to payee name stored in identified record of Registered Check Database.
12. If not, transmit "unauthorized" message to payee. As this step just allows for security, the "payee name" field can really be any unique identifier that a payee can use to identify herself.
13. Retrieve corresponding redemption status from Registered Check Database.
14. Determine if the redemption status is "cashed" or "frozen."
15. If cashed, transmit "check cashed" message to payee. This indicates to the payee that they must have already cashed that particular check.
16. If frozen, transmit check amount, check number, payee name and indication of "frozen" status to payee. This indicates to the payee that the amount of the check is still reserved for them.
17. End process.

Figure 8 is a flowchart describing the operation of the Check Cashing Process of Figure 2. This process is run when a payee cashes a check to adjust account balances and the data in the Registered Check Database. The account management server receives a signal via its input device indicating that a check is presented to be cashed. Here, appropriate input devices include keyboards, point-of-sale terminals, touch-screen monitors, or even check readers such as those commonly manufactured by Unisys Corporation and historically manufactured by Burroughs Corporation. Such check readers read data from checks either magnetically, from the MICR number or optically from the same set of numbers.

1. Receive account number and check number via input device.
2. Determine if account number and check number pair coexist in a record of Registered Check Database.
3. If not, continue check cashing processes conventionally. End process.
4. If so, determine if redemption status corresponding to record is "cashed" in Registered Check Database
5. If so, continue processing at step 9.
6. If not, change redemption status corresponding to record to "cashed" in Registered Check Database.
7. Retrieve check amount corresponding to account number from Registered Check Database.
8. Decrement "total account balance" cell in record of Checking Account Database corresponding to account number by retrieved check amount.
9. End process.

Figure 9 is a flowchart describing the operation of the Periodic Check Registration Management Process of Figure 2. This process may be run periodically to charge fees on all checks that are still "frozen" or not yet cashed in the Registered Check Database. As such, if an account holder does not have enough money in their account to keep the check "frozen," it is removed from the Registered Check Database and then treated like a conventional check. If the account holder wishes to prevent a check from becoming "un-frozen," they may, in other embodiments, prepay for the service. Such prepayment is disclosed in the aforementioned Registration Process of Figure 6.

1. Retrieve periodic service fee from Service Fee Database.
2. For a given record having a redemption status of "frozen" in the Registered Check Database, retrieve corresponding account number.
3. Retrieve corresponding "total account balance" from Checking Account Database.
4. Determine if service fee is less than or equal to retrieved "total account balance."
5. If not, remove corresponding record from Registered Check Database. End process.
6. If so, reduce "total account balance" and "total available for withdraw" fields corresponding to account number in Checking Account Database by retrieved service fee amount. End process.

Alternate Embodiments

- In an alternate embodiment, the functionality can be distributed over many computers in a network. This may prove practical if a third party, such as a clearinghouse or a check guarantee service, wished to practice the invention. This way, banks could, for example, maintain proprietary account data on their local system and allow the third party to securely access the data during the performance of the Registration Process and the Confirmation Process.
- If a telecommunication service provider was the third party offering such a service, a service fee could directly to the account holder's phone bill.
- In embodiments where the account holder devices and the payee devices are personal computers, they may communicate with the account management server via website. In this case, users can access data using the same processes, although they wouldn't be "prompted" in the same manner as an IVRU application.
- Service fees, of course, could be paid for using other means such electronic cash or other accounts. This way, an account holder isn't prevented from using the personal check certification service simply because they don't have enough money in their account to cover the service fee.
- Premium checking accounts may offer this service without charging a service fee.